

The Advantages of Using iproplan®

- Certified auditors for the German Sustainable Building Council (DGNB)
- More than 65 years experience in civil engineering, infrastructure and architectural projects
- Integrated, interdisciplinary approach to design
- In-house specialists in fire protection and building physics
- Energy-efficient design and sustainability consulting
- Passive house design

As part of the DGNB certification process, the following areas of expertise can be called upon:

- Ecological balance calculation
- Life cycle cost calculation
- Management concept
- Blower door measurement
- Air exchange measurement
- EnEV verification
- Daylight simulation
- Thermal building simulation
- Infra-red thermography
- Indoor air measurement (temperature, humidity)
- Building and room acoustics simulation
- Building and room acoustics measurement
- Spatial pollution impact measurement (external)

About Us

As an internationally active company, **iproplan®**, is constantly involved in the interacting fields of architecture, infrastructure and urban design. A highly experienced workforce of 280 architects and engineers are best placed to undertake almost any construction project and lead it from its basic concept to the realisation of its complete design.

Founded as a regional design office in Chemnitz, Germany in 1950, **iproplan®** has grown to become an internationally recognised company of consulting engineers, well known for their innovative approaches and professional competence both at home and abroad.

As consultants, **iproplan®** provides a comprehensive range of project management services that are mainly realised under one roof. You need not look any further to find an entire scope of in-house design services. New challenges may continually present themselves, but one thing remains constant: **iproplan®** will deliver quality, tailor-made solutions using clear processes, based on broad expertise.

We look forward to your instructions!

iproplan®
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Consulting Engineers and Architects

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Building Physics Energy Efficiency Sustainability

Our Services

As consulting engineers and general planners, we like to present ourselves under the motto: "all services from one source" and these include engineering and design expertise in:

Architecture

Infrastructure

Civil and Structural Engineering

Building Services

Landscaping, Urban and Regional Planning

Building Physics – Energy Efficiency – Sustainability

Construction Management – Project Management

Real Estate Consulting

Evaluations and special Services

All the above is largely carried out "under one roof" which facilitates clarity and good communication.

full of fresh ideas

Sustainability

Our team of professionals in the field “**Physics/Energy Efficiency/ Sustainability**” offers the following services on sustainability:

- Integration of sustainability into the planning and execution process
- Certification and consulting of objects acc. to the German Sustainable Building Council (DGNB)
- Certification and consulting acc. to the LEED Green Building Certification program (LEED = Leadership in energy-efficiency and environmental Design)
- Development of sustainable rating systems (Green Pyramid Rating System (GPRS) for hotel building in Egypt)
- Technical evidence, simulations and assessments for the certification (including Life Cycle Assessment LCA, Life Cycle Costing LCC, Energy performance rating)
- Measuring evidence for sustainable certifications (air tightness testing/blower door test, thermography, building and room acoustic measurements)

Building Physics and Energy Efficiency

Our team of professionals offers the following services in **Building Physics and Energy Efficiency**:

- Energy consulting for energy calculation und optimization of buildings (existing building and new construction)
- Evaluation of the thermal/building physical performance (transmission, distribution of temperature, moisture protection ...) of constructions
- Evaluation of the architectural solutions based on current standards and local heat protection/energy-efficiency standards (ISO, EN, DIN, ASHRAE, ÖNorm, DTR...)
- Theoretical and practical identification of thermal bridges. Review of detailed planning
- Thermal calculation for the summer and winter case with variant analysis
- Passive house consulting and calculations as well as support with certification
- Review of ventilation, heating, cooling and hot water systems from the viewpoint of energy efficiency
- Evaluation of energy efficiency and the building physics of existing buildings (construction and building services)
- Creating verifiable sound insulation reports
- Creating room acoustic concepts
- Quality and expertise tasks (infrared thermography, blower door test, long-term measurements of temperature and humidity, measurement of sound insulation, sound immission, etc.)



air tightness test

Building Physics and Energy Efficiency

Thermal Building Simulation

- Evaluation of comfort, heat gains, ventilation
- Report acc. to ASHRAE 90.1 (Energy Cost Budget Method)
- Energy performance rating acc. to LEED (ASHRAE 90.1 Appendix G)
- Calculating of the energy demand of buildings (heating, cooling, ventilation, etc.)



Thermal Building Simulation

Computational Fluid Dynamics

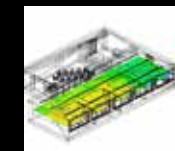
- Visualization and evaluation of flow rate, temperature and pressure distribution



Thermal Bridge Simulation

Daylight Simulation

- Modeling of daylighting systems, lighting control systems and savings in electrical illumination, optimization of the daylight factor



Acoustic Simulation

Thermal Bridge Simulation

- Identification of thermal bridges; review the detailed design using thermal heat bridge simulation to ISO 10211

Acoustic Simulation

Complex three-dimensional acoustic building simulation for calculation and display the following acoustic parameters:

- Reverberation time, speech intelligibility, sound insulation, sound distribution

References

National and international training in the field of sustainability, energy efficiency and building physics (i. a. England, Saudi Arabia, UAE, Vietnam, Egypt, Syria, Poland, Algeria).



Implementation and organization of several study tours on behalf of GIZ and United Nations Development Programme for foreign experts in the field of sustainability and energy efficiency.

Organization and implementation of training courses and conferences in numerous countries.



Planning, consultation and implementation of national and international projects in the field of energy efficiency and sustainability (including Germany, Russia, Austria, Poland, Vietnam, Qatar, Egypt, Jordan, Algeria, Tunisia, Morocco).